## Work Order ID 100190

\_dpril-18-13 2:54:25 PM

\*100190\*

Page 1

Revision ID:	D4062-3 Lower Tank St	upport		Accept	*N900	<u>040</u>	100	)* s	etup Sta	i	S1* S2*
Start Date: Required Date: Reference:	4/18/13 5/02/13	Start Qty: 5.00 Req'd Qty. 5.00	**************************************		Cust Item   Customer:	D:				· · · IN	5/"
Approvals:			Date: 13-64-19	Tooling:		ate:		R	un Sta Sto	1/1	R1*
			Date:	SPC (Y/N):	D:	ate:				` *N	R2*
Sequence ID/ Work Center ID		Operation  Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revi	sion Nbr			\$						
D4062	C										
100				0.00			<del></del>				
*100* Waterjet		Memo		0.00				//	R	13-6-11	
FLOW CNC Waterjet		CUT AS PEI dwg rev: prog rev:				,					
102		QC2- Inspect parts off ma	achine FAI/FAIB	0.00							
*100* QC		Memo		0.00			•		A.	13-6-0	/
Quality Control											
130		QC8- Inspect parts - secon	nd check	0.00							( <b>0.</b> 4 -
*130* QC Quality Control		Memo		0.00				4200	13.0	6.19	<b>09</b>

											DQA:	Date	:
NCR:	Yes /	No				WORK ORDER NON-C	100	NFORN	ANCE / UPDA	ATE		<del></del>	
									<u>.</u>		QA Closed:	Date	:
Work Orde	or.					DISPOSITION				AGAINST DE	PARTMENT,	/PROCESS	
WOIK OIG	CI.					Rework	1		Skid-tube	Crosstube	1	Water Jet	Engineering
Part N	No.					Scrap	1 1		Machining	Small Fab	Pro	d. Eng. Coor.	Quality
					· · · · · · · · · ·	Use-as-is	1		noforming	Finishing	Rec/Stor	re/Packaging	Other
NCR i	No		_			Work Order Update	]		Large Fab	Composite	1	Supplier	
Root		Τ			Descri	ption of work order update	П	Initial	Actio	n ·	Sign &		
Cause		ate	Step	Qty	(	or Non-conformance	Ch	ief Eng	Descrip	tion	Date	Verification	QC Inspector
Doc/Data													
Equip/Tooling													
Operator	Ш												
Material	Ш												,
Setup													
Other	Ш				*								•
Process	Ш												
Supplier	Ш	.				•							
Training	Ш												
Unapproved													
						<del></del>	AUL	T CATE	GORY				
Landi	ng Gear				·	General		1			1	_	<b>-</b>
	<b>——</b>	nding			<u> </u>	Bend	<u> </u>	Grain		<u> </u>	Ovalized	_	Pressure/Forced
	$\boldsymbol{\vdash}$	ntre Not	Concen	tric to	o/s	BOM/Route	$\vdash$	Hardwa			Over/Under	<b>⊢</b>	Temperature/Cure
	Cra				•	Broken/Damaged	<u> </u>	4 '	on Incomplete	<u> </u>	Part Incorred	<del> </del>	Weld
	-	ished/Cr	imped		$\vdash$	Burrs	$\vdash$	4	ions Incomplete/Un	clear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cut					Contamination	$\vdash$	Mainte		ļ	Part Moved		•
	${f H}$	at Treat				Countersink	<u></u>	Mislabe			Positioned V		٦٠٠٠
	$\vdash$	pection :	•	Tube		Cut Too Short	$\vdash$	Misread		L.	Power Loss/	Surge	Other
l .	l Rin	ples in B	lend			Drill Holes	1	Offset					

Out of Calibration

Out of Sequence

Outside Dimensions

Turning Sequence

Wave/Twist in Tube

Torque Waves in Extrusion

Drawing

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Work Order ID 100190 April-18-13 2:54:25 PM		io.	*100190*						Page 2				
Item ID: Revision ID: Item Name:	D4062-3 Lower Tank	Support		Accept	*N900	040	1100	ገ*	Setup Sta	I ZI	IS1* IS2*		
Start Date: Required Date: Reference:	4/18/13 : 5/02/13	Start Qty: 5.00 Req'd Qty: 5.00	*5* *5*		Cust Item I Customer:	ID:				IN			
Approvals:	Process Pl	an:	Date:	Tooling:	D:	ate:	 		Run Sta	1/7	IR1*		
	QC:		Date:	SPC (Y/N):	Da	ate:			Sto	<sup>'p</sup> *N	IR2*		
Sequence ID/ Work Center II	D	Operation Description Identify as per dwg & Sto	ook Laastian MAAAA	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	t Reject Qty	Reject Number	Insp. Stamp		
*140* Packaging Packaging		Memo	ick Location: WVX1	0.00							13.06.12		
*150 *150*		QC21- Final Inspection -	Work Order Release	0.00							_		
QC		Memo		0.00					MUS	13-06	12		
Quality Control	e e		, , , , , , , , , , , , , , , , , , ,							ML5 1	12_3-06-12		

											DQA:	Da	te:	
NCR:	Yes	/ No				<b>WORK ORDER NON-</b>	COI	NFORM	MANCE / UPD	ATE				
		-									QA Closed:	. Da	te:	
Work Ord	oř.					DISPOSITION				AGAINST DE	PARTMENT	/PROCESS		
WOIK OIG	٠					Rework	7		Skid-tube	Crosstube	1	Water Jet		Engineering
Part I	۷o.					Scrap	1	•	Machining	Small Fab	Pro	d. Eng. Coor.		Quality
				<del></del>		Use-as-is	1		noforming	Finishing	4	re/Packaging		Other
NCR I	No.					Work Order Update	1		Large Fab	Composite		Supplier		
		* 1 -									_			
Root					Descri	ption of work order update		Initial	Actio		Sign &			
Cause		Date	Step	Qty	•	or Non-conformance	Cr	nief Eng	Descri	ption	Date	Verificatio	n	QC Inspector
Doc/Data														
Equip/Tooling									. •					
Operator							ŀ							
Material	Ш													
Setup											1.			·
Other	Ш										ļ			
Process					ļ								•	
Supplier														
Training	$oxed{oxed}$									•		ļ		
Unapproved			<u> </u>								<u> </u>	<u> </u>		
							AUI	LT CATE	GORY					
Landi	ng (	1				General		]			Ovalized	,	_	Pressure/Forced
		Bending			_	Bend BONA/Bounts	$\vdash$	Grain		-	Over/Under	+alaranaa	<del> </del>	Temperature/Cure
•		Centre N	ot Concei	ntric to	<sup>0/s</sup>	BOM/Route	-	Hardwa		-	Part Incorre		_	Weld
	<u> </u>	Cracks	Calar 1			Broken/Damaged	$\vdash$	-i '	on Incomplete	nelear	4		$\vdash$	Wrong Stock Pulled
]	$\vdash$	Crushed/	Crimped		-	Burrs	$\vdash$	Mainte	ions Incomplete/Ur	iclear	Part Lost/M Part Moved	12211.IR	Ц	I who lig stock rulled
	$\vdash$	Cuffs				Countamination	$\vdash$	-1		<b> </b>	4	Mrong		
	$\vdash$	Heat Trea		<b>T</b> . 6	$\vdash$	Countersink	$\vdash$	Mislabe		<b>—</b>	Positioned V	_	_	Other
	1	Inspectio	n Strip in	Tube		Cut Too Short	L	Misread	ז	<u> </u>	Power Loss/	ourge	L	Other

Offset

Out of Calibration

Out of Sequence

Outside Dimensions

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Turning Sequence

Wave/Twist in Tube

Ripples in Bend

Torque Waves in Extrusion

Drill Holes

Drawing

Finish

Folio

April-18-13 2:54:28 PM

Work Order ID: 100190

\*100190\*

Parent Item:

D4062-3

\*D4062-3\*

Parent Item Name: Lower Tank Support

**Start Date:** 4/18/13

Required Date: 5/02/13

Start Qty: 5.00

Required Qty: 5.00

**Comments:** 

IPP REV:A NEW ISSUE 11-11-28 JLM VERIFIED BY:DD

IPP

REV:B AS PER REV C 12-03-08 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
MUHMWB250		Purchased	No				sf	49.0000		14.21053		<u>-</u>	
*MUHMWI UHMWB .250 BLACK	3250*					j Er			**	EC	13-6	5-//	

Location Loc Qty Loc Code MAT019 121064

125488

NCR: Y	es / No				WORK ORDER NON-C	10:	NFORI	MANCE / UPD	DATE			
			٠							QA Closed:	Date:	·
Work Orde	rř:				DISPOSITION				AGAINST DE	PARTMENT	/PROCESS	
	· · · · · · · · · · · · · · · · · · ·				Rework	1		Skid-tube	Crosstube	]	Water Jet	Engineering
Part N	lo.				Scrap			Machining	Small Fab	Pro	d. Eng. Coor.	Quality
			,		Use-as-is		Therr	noforming	Finishing	Rec/Sto	re/Packaging	Other
NCR N	lo				Work Order Update	]		Large Fab	Composite		Supplier	
		1	Г	5			:4:1	Acti		Sign 9.		· .
Root	D-1-	Can	0.4.	l .	ption of work order update		nitial iief Eng		•	Sign & Date	Verification	QC Inspector
Cause	Date	Step	Qty	<u>'</u>	or Non-conformance	Cn	ner Eng	Descri	ption	Date	Vernication	QC IIISPECTOI
Doc/Data	_					l	•				:	
Equip/Tooling												
Operator						1						
Material	_	ļ										
Setup	-											
Other						1						
Process												
Supplier Training					•.							
Unapproved												
Ollappioved		1	<u> </u>	<u>.                                    </u>	F	AUL	T CATE	GORY		<u> </u>	<u> </u>	
Landir	ng Gear				General				-		····	
	Bending				Bend	Г	Grain			Ovalized		Pressure/Forced
	Centre N	ot Conce	ntric to	o/s	BOM/Route		Hardwa	are		Over/Under	tolerance	Temperature/Cure
l	Cracks				Broken/Damaged		inspect	ion Incomplete		Part Incorre	ct	Weld
	Crushed/	Crimped			Burrs		instruc	tions Incomplete/U	nclear	Part Lost/Mi	ssing	Wrong Stock Pulled
	Cuffs				Contamination		Mainte	enance		Part Moved		
	Heat Tre	at			Countersink		Mislab	eled		Positioned V	Vrong	
	Inspection	n Strip in	Tube		Cut Too Short		Misrea	d		Power Loss/	Surge	Other
	Ripples in	n Bend			Drill Holes		Offset					
	Torque V	Vaves in 1	Extrusio	on [	Drawing		Out of	Calibration				
	Turning S	Sequence	)		Finish	L	Out of	Sequence				

Outside Dimensions

Date:

Wave/Twist in Tube

Folio

DART AEROSPACE LTD	Work Order:	100 190
Description: Lower Tank Support	Part Number:	D4062-3
Inspection Dwg: D4062 Rev: C		Page 1 of 1

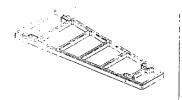
## FIRST ARTICLE INSPECTION CHECKLIST

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.00	+/-0.030	1	_		T SKMOB	
2.00	+/-0.030	2	<u> </u>		T	•
0.25	+/-0.030	0.28	~		T	
2.95	+/-0.030	2.93		-	r	
4.95	+/-0.030	4.93			<u> </u>	
10.07	+/-0.030	10.06	~		10	
15.39	+/-0.030	15.375	س		"	
* 20.71	+/-0.030	20.68	~		1	
26.18	+/-0.030	26-1	_		1	
28.18	+/-0.030	28.1.5			11	
31.13	+/-0.030	31.125		·····		
0.38	+/-0.030	0.38	سي		· ·	
1.38	+/-0.030	1.375	-		16	
11.96	+/-0.030	1.93			6.	
0.35	+/-0.030	0.357			1(	
6.31	+/-0.030	6.31	~		a	
0.250	+/-0.010	0.262		<del></del>	V 5km01	
	·					
,					· ·	
			DAS			

Measured by:	a	Audited by:	09	Preliminary Approval:	
Date:	13-6-11	Date:	13.00-12	Date:	

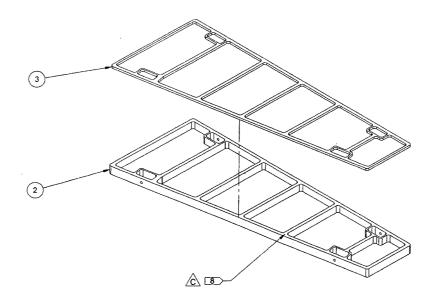
Rev	Date	Change		Revised by	^	Approved
Α	12.05.15	New Issue	;	KJ d		
•				7,	<b>y</b> —	

ITEM NO.	QTY -041	PART NUMBER	DESCRIPTION
1	×	D4062-041	TANK SUPPORT ASSEMBLY
- 2	;	` D4062-1	LOWER TANK SUPPORT
3	1	D4062-3	UPPER TANK SUPPORT



С

В



UNCO SUDJECT  $V_{n,1}$ . NO 100 190 MCD

## **D4062-041 TANK SUPPORT ASSEMBLY**

NOTES:
1) MATERIAL: N/A
2) FINISH: N/A
2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 2.91 lbs
8) BOND ITEMS 2 & 3 TOGETHER USING PROSEAL 890 OR MIL-S-8802 CLASS B2 SEALANT

REMOVE HARDWARE TO ATTACH ITEMS 2 & 3. REMOVE C'BORE. DC 11.12.14 В MODIFIED DIMS & DESIGN OF -1, ADDED -3/-041 DC 11.09.29 Α HS 10.07.26 REV. DESCRIPTION BY DATE DESIGN DART AEROSPACE LTD DRAWN HAWKESBURY, ONTARIO, CANADA

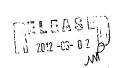
DRAWING NO. CHECKED REV. C D4062 MFG. APPR. SHEET 1 OF 3 APPROVED TITLE SCALE TANK SUPPORT

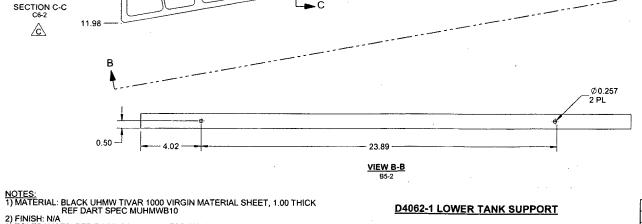
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FOR THE WORLD AND FOR THE PROPERTY AND IN CONTROL OF THE OFFICE AND THE PROPERTY AND THE OFFICE DE APPR. NTS DATE

11.12.14





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C8-2

REF DART SPEC MUHMWB10
2) FINISH: NIA
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NIA
7) WEIGHT: 2.53 lbs
8) CUT PER D4062-1.DXF
9) MAXIMUM INSIDE RADIUS = 0.250

0.0

\_1.00 REF

0.38 1.38 - 0.38

5.07

0.13

**D4062-1 LOWER TANK SUPPORT** 

DESIGN	<b>8</b> 5	DART AEROSPA	CELTD
DRAWN	DC	HAWKESBURY, ONTARIO	
CHECKED	1	DRAWING NO.	REV. C
MFG. APPR.	星	D4062	SHEET 2 OF 3
APPROVED	140	TITLE	SCALE
DE APPR.	-4	TANK SUPPORT	NTS
DATE 11.1	2.14	COPYRIGHT © 2010 BY DART AS THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLED NOT TO BE USED FOR MAY PURPOSE OR COPED OR COMMUNICAT	ON THE EXPRESS CONDITION THAT IT IS

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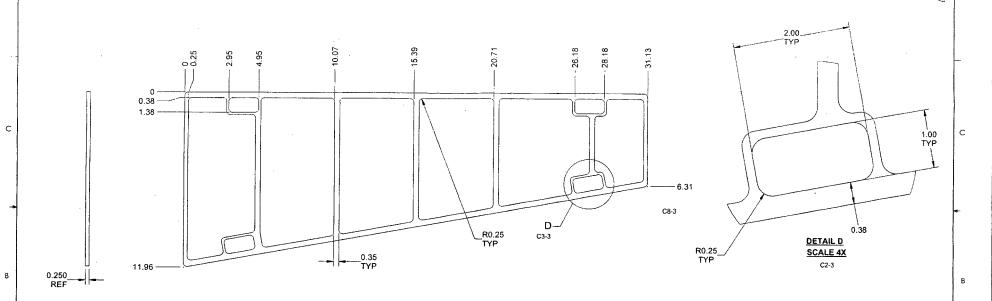
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2

0.35 TYP

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**D4062-3 UPPER TANK SUPPORT** 

NOTES: 1) MATERIAL: BLACK UHMW TIVAR 1000 VIRGIN MATERIAL SHEET, 0.25 THICK REF DART SPEC MUHMW8025

2) FINISH: N/A
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: N/A
7) WEIGHT: 0.37 lbs
8) CUT PER D4062-3.DXF

DESIGN	<b>3</b> 5	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DC		
CHECKED	<b>5</b>	DRAWING NO.	REV. C
MFG. APPR.	Z	D4062	SHEET 3 OF 3
APPROVED	143	TITLE	SCALE
DE APPR.	-#	TANK SUPPORT	NTS
DATE 11 12 14		COPYRIGHT © 2010 BY DART AEROSPACE LTD THIS DODAMANT & RESYSTE AND COMPRESSION, AND IS SUPPLED ON THE SUPPLES CONCITION THAT IT IS	